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FOREST INSECT CONDITIONS
PLUMAS NATIONAL FOREST - THOMPSON PEAK INFESTATION UNIT

September 1952

APPRAISAL SURVEY

During the period September 13 to 19 an appraisal survey was made of bark-beetle infested stands on the Upper Boulder Creek, Clark's Creek, Antelope Creek, and Thompson Creek drainages of the Plumas National Forest. The surveyed area (Figure 1), containing most of the remaining virgin pine stands in the Eastern Plumas and Greenville Working Circles, has been designated for reporting purposes as the Thompson Peak infestation unit. The survey of this unit was made by Messrs. Downing, Stephens, Stevens, and Wickman, under the direction of M. M. Furniss of the Berkeley Forest Insect Laboratory. The purpose of the survey was to determine the extent and severity of damage by the Jeffrey pine beetle and the western pine beetle in Jeffrey and ponderosa pine respectively, to serve as a basis for control action contemplated this fall.

The survey method consisted of 1/2-acre sample plots established at 5-chain intervals along cruise lines run at right angles to the general contour, with a sample coverage of about 2 percent of the total area. It was expected that this intensity of coverage would yield information on the volume of currently infested trees subject to not more than a 25-percent sampling error at the 95-percent confidence level. Loss information on each plot was segregated into three categories: 1952 infested trees, 1952 abandoned trees and 1951 abandoned trees. Tree species, diameter, and site were also recorded. Volume figures were determined from Dunning's volume table for ponderosa and Jeffrey pine.

CHARACTER OF THE 1952 INFESTATION

The 1952 infestation in the Thompson Peak Infestation Unit is characterized by heavy epidemic losses in Jeffrey and ponderosa pine, caused by Dendroctonus jeffreyi and Dendroctonus brevicomis. The stands in the area are composed primarily of Jeffrey pine; consequently, the major portion of the loss is in this species. Numerous large groups of infested Jeffrey pines were observed with one group containing 14 merchantable trees.

SPECIFIC AREA APPRAISED

The specific area appraised in the survey is shown in Figure 1. It includes about 20,000 acres of virgin Jeffrey and ponderosa pine near Thompson Peak on the Milford Ranger District.

ESTIMATED LOSSES

Table 1 presents the estimated total number of insect-killed trees, average volume per acre and total volume by the following categories: infested 1952, abandoned 1952, abandoned 1951, and total salvable. It is estimated that losses will be as follows: infested 1952, ponderosa and Jeffrey pine, 185 board feet per acre; white fir, 41 board feet per acre; lodgepole pine, 15 board feet per acre; total infested, 241 board feet per acre. For the whole unit of 20,000 acres this means about 3,700,000 board feet of ponderosa and Jeffrey, and 1,120,000 board feet of white fir and lodgepole. Total salvable ponderosa and Jeffrey pine is estimated at 485 board feet per acre, or a total of 9,700,000 board feet for the unit; white fir and lodgepole, 75 board feet per acre, or 1,500,000 board feet for the unit. This represents a grand total of about 560 board feet per acre, or about 11,200,000 board feet for the unit.

CONTROL RECOMMENDATIONS

The following action is advised in the Thompson Peak unit:

1. Salvage logging of infested ponderosa and Jeffrey pine during the fall and winter of 1952, or early spring of 1953. Since practically all of the infested material is Jeffrey pine, the deadline on removal in the spring could be set as late as June 1, 1953.

2. A thorough spotting job of all infested trees should be done as soon as practical. The option of removing the abandoned salvable trees might be given the operator, providing that this does not delay the over-all removal of the infested trees by June 1, 1953.

DISCUSSION

In the controlling of bark beetles by salvage-logging methods it is extremely important that all infested trees be removed. In the present case this means that a careful job of spotting prior to cutting will be required, because many of the currently infested trees have not yet shown signs of fading. Since Jeffrey pine, especially, remains green some time after attack, the ability to recognize infested but non-faded trees on this job is especially important. The spotting crew must be well trained to recognize evidence of current infestation. The Berkeley Laboratory is prepared to detail an experienced man to help plan and supervise control work and assist in training spotters as needs require.

Forest Insect Laboratory
Berkeley, California
September 29, 1952

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and

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TABLE 1

APPRAISAL SURVEY - THOMPSON PEAK INFESTATION UNIT - PLUMAS NATIONAL FOREST

ESTIMATED LOSS*

September 1952

(Timbered Acreage - 20,000)

Species	Infested 1952			Abandoned 1952			Abandoned 1951			Total Salvable		
	No. Trees	Vol. per Acre	Total Vol. Bd. Ft.	No. Trees	Vol. per Acre	Total Vol. Bd. Ft.	No. Trees	Vol. per Acre	Total Vol. Bd. Ft.	No. Trees	Vol. per Acre	Total Vol. Bd. Ft.
Jeffrey & Ponderosa	3180	185	3,700,000	680	32	640,000	3500	268	5,360,000	7,360	485	9,700,000
White Fir	620	41	820,000				200	19	380,000	820	60	1,200,000
Lodgepole	880	15	300,000							880	15	300,000
All Species	4680	241	4,820,000	680	32	640,000	3700	287	5,740,000	9,060	560	11,200,000

*Based upon a cruised sample of approximately 2 percent. In the absence of some basis for adjusting the cruise records to allow for time of year of spotting, no adjustments have been made. The loss estimates shown are believed to be conservative, therefore.

The above estimates are subject to the following sampling error at the 95-percent confidence level:

Total infested volume	± 33.2
Total infested and abandoned volume 1952	± 25.0